

UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 98-721-B)

PATENT

In the Application of:

Richard Dynarski, et al.

Serial No.: TBD

Filed: TBD

For: Dynamic Allocation of Wireless Mobile Nodes
Over an Internet Protocol (IP) Network

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Group Art Unit Not known

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This preliminary amendment is submitted in conjunction with the continuation application filed herewith of prior application 09/233,381 filed January 19, 1999.

In the specification, insert at page 2, line 1, above the heading "BACKGROUND OF THE INVENTION", insert the following text:

-- CROSS-REFERENCE TO RELATED APPLICATION

This is a continuation of prior application serial no. 09/233,381 filed January 19, 1999, pending. - -

In advance of examination of the application, please cancel claims 1-6, leaving in the application claims 7-10.

Please re-write claims 7 and 10 as follows. A marked-up version of the claim amendments is attached as Exhibit A hereto.

7. A method of automatically locating and connecting a wireless communications device to an Internet Protocol (IP) network, comprising the steps of:

receiving an IP packet from a terminal on said network at a home agent;

said home agent transmitting an access-request message to an authentication server, said

5 access-request message comprising a destination IP address found in said IP packet;

said authentication server responsively issuing an access-accept message to said home agent if said device is authorized to receive said IP packet, said access-accept message comprising information uniquely identifying said device;

said home agent transmitting a query message to a home location register node on a
10 Signaling System 7 network, said home location register node responsively replying to said home agent with location information for said device;

paging said device via a wireless communications network; and

in response to said page, said device initiating a connection via said wireless communications network to said IP network whereby said IP packet is transmitted to said device.

10. A method of connecting a mobile wireless communications device to an Internet Protocol (IP) network, said wireless communications device being a subscriber to a wireless communications network, comprising the steps of:

authenticating said device to determine whether said device is authorized to receive an

5 IP packet from a terminal connected either directly or indirectly to said IP network;

searching, with a location server on said IP network, for an existing IP address for routing said IP packet to said device when an IP packet is received by a node in said IP network destined for said device;

if said step of searching results in a negative result, responsively paging said device

10 via said wireless communications network; and

connecting said device to said IP network via a network access server coupling said wireless communications network to said IP network when said device responds to said page by connecting to said network access server, said network access server notifying said location sever that it has said connection with said device and providing an IP address for said
5 device to said location server, said IP address forwarded to said home agent whereby said device receives said IP packet and initiates communication via said IP network with the source of said IP packet.

Respectfully submitted.

McDonnell Boehnen Hulbert & Berghoff

Date: 5/22/01

By:

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EXHIBIT A TO PRELIMINARY AMENDMENT

Marked up copy of claim amendments

7. A method of automatically locating and connecting a wireless communications device to an Internet Protocol (IP) network, comprising the steps of:

receiving an IP packet from a terminal on said network at a home agent;

said home agent transmitting an access-request message to an authentication server, said

5 access-request message comprising a destination IP address found in said IP packet;

said authentication server responsively issuing an access-accept message to said home agent if said device is authorized to receive said IP packet, said access-accept message comprising information uniquely identifying said device;

said home agent transmitting a query message to a home location register node on a
10 Signaling System 7 network, said home [agent] location register node responsively replying to said home agent with location information for said device;

paging said device via a wireless communications network; and

in response to said page, said device initiating a connection via said wireless communications network to said IP network whereby said IP packet [may be] is transmitted to said device.

10. A method of connecting a mobile wireless communications device to an Internet Protocol (IP) network, said wireless communications device being a subscriber to a wireless communications network, comprising the steps of:

authenticating said device to determine whether said device is authorized to receive an IP packet from a terminal connected either directly or indirectly to said IP network;

searching, with a location server on said IP network, for an existing IP address for routing said IP packet to said device when an IP packet is received by a node in said IP network destined for said device;

if said step of searching results in a negative result, responsively paging said device via said wireless communications network; and

connecting said device to said IP network via a network access server coupling [a] said wireless communications network to said IP network when said device responds to said page by connecting to said network access server, said network access server notifying said location sever that it has said connection with said device and providing an IP address for said device to said location server, said IP address forwarded to said home agent [wherein] whereby said device [may receive] receives said IP packet and [initiate] initiates communication via

Year	Country	Population (millions)	Urban population (millions)	Urban population (%)	Population growth (1950-1980)	Urban population growth (1950-1980)	Urban population growth (%)
1950	China	550	100	18	100	20	20
1950	India	360	40	11	100	10	10
1950	USA	150	100	67	100	50	50
1950	USSR	190	100	53	100	30	30
1950	Japan	90	70	78	100	40	40
1950	France	45	30	67	100	20	20
1950	Germany	50	35	70	100	25	25
1950	Italy	45	25	56	100	15	15
1950	UK	50	35	70	100	20	20
1950	Canada	25	15	60	100	10	10
1950	South Africa	25	15	60	100	10	10
1950	Spain	25	10	40	100	5	5
1950	Sweden	8	6	75	100	3	3
1950	Norway	3	2	67	100	1	1
1950	Denmark	2	1	50	100	0.5	0.5
1950	Finland	2	1	50	100	0.5	0.5
1950	Poland	25	10	40	100	5	5
1950	Czechoslovakia	15	8	53	100	3	3
1950	Soviet Union	190	100	53	100	30	30
1950	East Germany	15	8	53	100	3	3
1950	West Germany	15	8	53	100	3	3
1950	France	45	30	67	100	20	20
1950	Italy	45	25	56	100	15	15
1950	Japan	90	70	78	100	40	40
1950	USA	150	100	67	100	50	50
1950	India	360	40	11	100	10	10
1950	China	550	100	18	100	20	20